

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): An inputting device, which is disposed in an opening of a cabinet surface, comprising:

an elastic sheet having an topoutside surface and a bottom surface, the top surface disposed on an inside surface of said cabinet including said opening ;

a sliding key that is fixed on the topoutside surface of said elastic sheet with at least a portion in said opening of said cabinet surface; and

sensors that at least detect movement in a horizontal direction that is substantially parallel to said cabinet surface, of said sliding key.

2. (previously presented): An inputting device in accordance with claim 1, wherein:
said sliding key has a rim part whose diameter is larger than that of said opening.

3. (previously presented): An inputting device in accordance with claim 2, wherein:
said sliding key is adhered to said elastic sheet at said rim part, and
a space is formed on a portion of the inside surface of said cabinet at a position adjacent to said opening , and
at least a portion of said rim part of said sliding key is disposed in said space.

4. (original): An inputting device in accordance with claim 1, further comprising:
a first control signal generating means that generates a first control signal corresponding to at least the moved direction of said sliding key detected by said sensors, wherein:
said first control signal executes the change of the position of a subject to be controlled on a display.

5. (currently amended): An inputting device, which is disposed in an opening of a cabinet surface, comprising:

an elastic sheet having an outside surface disposed on an inside surface of said cabinet including said opening

a surrounding key comprising a ring shape larger than said opening that is fixed on an outside surface of said elastic sheet;

a sliding key that is fixed on the outside surface of said elastic sheet with at least a portion in said opening of said cabinet surface;

sensors that at least detect movement in a horizontal direction that is substantially parallel to said cabinet surface of said sliding key; and

switches that detect the movement in a vertical direction of said surrounding key.

6. (previously presented): An inputting device in accordance with claim 5, wherein:
said sliding key has a rim part whose diameter is larger than that of said opening.

7. (previously presented): An inputting device in accordance with claim 6, wherein:

said sliding key is adhered to said elastic sheet at said rim part;
a space is formed on a portion of the inside surface of said cabinet; and
at least a portion of said rim part of said sliding key is disposed in said space.

8. (original): An inputting device in accordance with claim 5, further comprising:
a first control signal generating means that generates a first control signal corresponding to at least the moved direction of said sliding key detected by said sensors; and
a second control signal generating means that generates a second control signal corresponding to the pushed direction of one of the edges of said surrounding key detected by one of said switches; wherein:
said first control signal and said second control signal execute the change of the position of a subject to be controlled on a display.

9. (previously presented): An inputting device in accordance with claim 1 or 5, wherein:
a magnet is disposed in said sliding key, and
said sensors detect the moved direction and the amount of the horizontal movement of said sliding key based on the change of the magnetic flux density from said magnet corresponding to the movement of said sliding key.

10. (original): An inputting device in accordance with claim 9, wherein:
said sliding key provides a concave part on a part of the surface where said sliding key is adhered to said elastic sheet, and

said sliding key is adhered to said elastic sheet by disposing said magnet in said concave part, and

said magnet is sealed in said sliding key.

11. (previously presented): An inputting device in accordance with claim 1 or 5, wherein: guides being possible to be recognized optically are disposed on designated positions on said elastic sheet, and

said sensors detect the moved direction and the amount of the horizontal movement of said sliding key by reading the movements of said guides optically corresponding to the movement of said sliding key.

12. (previously presented): An inputting device in accordance with claim 1 or 5, wherein: a coil is disposed in said sliding key, and
said sensors detect the moved direction and the amount of the horizontal movement of said sliding key based on the electromotive force generated by the electromagnetic induction by the movement of said sliding key in the magnetic field of designated power formed at the surrounding part of said coil.

13. (previously presented): An inputting device in accordance with claim 1 or 5, further comprising:

a pushing component, which is made of a material that is harder than said elastic sheet and whose friction factor is smaller than that of said elastic sheet, and which is disposed on the inside surface of said elastic sheet at the position corresponding to said sliding key;

a contact switch disposed adjacent to said pushing component that detects that said sliding key was pushed in a vertical direction that is substantially perpendicular to said cabinet surface; and

a third control signal generating means that generates a third control signal when said pushing component contacts said contact switch ; wherein:

said third control signal executes the selection or the decision of information indicating by a subject to be controlled on a display.

14. (previously presented): An inputting device in accordance with claim 13, further comprising:

an ignoring means that ignores said third control signal, in case that the amount of the movement of said sliding key in said horizontal direction is larger than a predetermined value.

15. (previously presented): An inputting device in accordance with claim 13, further comprising:

a printed circuit board on which said contact switch is disposed; and

a sheet that covers said printed circuit board and said contact switch.

16. (previously presented): An inputting device in accordance with claim 1 or 5, further comprising:

a bellows portion having a ring shape formed in said elastic sheet outside the position where said sliding key is adhered to said elastic sheet.

17. (previously presented): An inputting device in accordance with claim 1 or 5, further comprising:

at least one of projections supporting said sliding key on the inside surface of said elastic sheet.

18. (previously presented): An inputting device in accordance with claim 1 or 5, further comprising:

a concave part formed on the outside surface of said sliding key.

19. (previously presented): An inputting device in accordance with claim 1 or 5, further comprising:

a nonskid component disposed on the outside surface of said sliding key.

20. (previously presented): An inputting device in accordance with claim 1 or 5, further comprising:

one or more projections formed on the outside surface of said sliding key.

21. (previously presented): An inputting device in accordance with claim 1 or 5, further comprising:

a plurality of openings in said cabinet surface; and
a group of keys formed on the front surface of said elastic sheet and each disposed in a corresponding opening of said plurality of openings.

22. (currently amended): A mobile terminal, comprising:
a cabinet surface having an opening;
an elastic sheet having an top outside surface and a bottom surface, the top surface
disposed on an inside surface of said cabinet including said opening;
a sliding key that is fixed on the topoutside surface of said elastic sheet with at least a portion in said opening of said cabinet surface;
sensors that at least detect movement in a horizontal direction that is substantially parallel to said cabinet surface of said sliding key;
a displaying means that displays information; and
a first controlling means that executes first control corresponding to at least the moved direction of said sliding key in said horizontal directionas detected by said sensors.

23. (previously presented): A mobile terminal in accordance with claim 22, further comprising:

a pushing component, which is made of a material that is harder than said elastic sheet and whose friction factor is smaller than that of said elastic sheet, and which is disposed on the inside surface of said elastic sheet at a position corresponding to said sliding key;

a contact switch disposed adjacent to said pushing component that detects that said sliding key was pushed in a vertical direction that is substantially perpendicular to said cabinet surface; and

a third controlling means that executes third control when said pushing component made said contact switch work.

24. (previously presented): A mobile terminal in accordance with claim 22, wherein:
said sensors detect the movement and the amount of the movement of said sliding key in said horizontal direction, and

said first controlling means executes said first control corresponding to the moved direction and the amount of the movement of said sliding key.

25. (previously presented): A mobile terminal in accordance with claim 23, further comprising:

a control stopping means that stops said third controlling means, in case that the amount of the movement in the horizontal direction of said sliding key is larger than a predetermined value.

26. (previously presented): A mobile terminal in accordance with claim 23, further comprising:

a printed circuit board on which said contact switch is disposed; and
a sheet that covers said printed circuit board and said contact switch.

27. (original): A mobile terminal in accordance with claim 22, wherein:
said first controlling means executes the change of the position displaying a subject to be controlled on said displaying means.

28. (original): A mobile terminal in accordance with claim 23, wherein:
said third controlling means executes the selection or the decision of information indicating by said subject to be controlled on said displaying means.

29. (previously presented): A mobile terminal in accordance with claim 22, wherein:
said sliding key has a rim part whose diameter is larger than that of said openingt,
said sliding key is adhered to said elastic sheet at said rim part, and
a space is formed on a part of the inside surface of said cabinet at the position adjoining said opening part, and
said rim part of said sliding key is disposed in said space.

30. (previously presented): A mobile terminal, comprising:
a cabinet surface having an opening;

an elastic sheet having an outside surface disposed on an inside surface of said cabinet including said opening;

a surrounding key comprising a ring shape large than said opening that is fixed on an inside surface of said elastic sheet;

a sliding key that is fixed on the outside surface of said elastic sheet within at least a portion in said opening of said cabinet surface;

sensors that at least detect movement in a horizontal direction substantially parallel to said cabinet surface;

a displaying means that displays information;

a first controlling means that executes a first control corresponding to at least the horizontal movement of said sliding key; and

a second controlling means that executes a second control corresponding to the pushed direction of one of the edge parts of said surrounding key.

31. (previously presented): A mobile terminal in accordance with claim 30, further comprising:

a pushing component, which is made of a material that is harder than said elastic sheet and whose friction factor is smaller than that of said elastic sheet, and which is disposed on the inside surface of said elastic sheet at the position corresponding to said sliding key;

a contact switch disposed adjacent to said pushing component that detects that said sliding key was pushed in a vertical direction that is substantially perpendicular to said cabinet; and

a third controlling means that executes a third control when said pushing component made said contact switch work.

32. (previously presented): A mobile terminal in accordance with claim 30, wherein:
said sensors detect a moved direction and the amount of movement of said sliding key in the horizontal direction, and

said first controlling means executes said first control corresponding to the moved direction and the amount of the movement of said sliding key.

33. (previously presented): A mobile terminal in accordance with claim 31, further comprising:

a control stopping means that stops said third controlling means, in case that the amount of the horizontal movement of said sliding key is larger than a predetermined value.

34. (previously presented): A mobile terminal in accordance with claim 31, further comprising:

a printed circuit board on which said contact switch is disposed; and
a sheet that covers at least a portion of said printed circuit board and said contact switch.

35. (original): A mobile terminal in accordance with claim 30, wherein:
said first controlling means and said second controlling means execute the change of the position displaying a subject to be controlled on said displaying means.

36. (original): A mobile terminal in accordance with claim 31, wherein:
said third controlling means executes the selection or the decision of information
indicating by said subject to be controlled on said displaying means.

37. (original): A mobile terminal in accordance with claim 30, wherein:
said first controlling means executes the change of the position displaying a first subject
to be controlled on said displaying means, and
said second controlling means executes the change of the position displaying a second
subject to be controlled on said displaying means.

38. (original): A mobile terminal in accordance with claim 37, wherein:
said third controlling means executes the selection or the decision of information
indicating by said first or second subject to be controlled on said displaying means.

39. (previously presented): A mobile terminal in accordance with claim 30, wherein:
said sliding key has a rim part whose diameter is larger than that of said opening ,
said sliding key is adhered to said elastic sheet at said rim part, and
a space is formed on a part of the inside surface of said opening, and
said rim part of said sliding key is disposed in said space.

40. (previously presented): A mobile terminal in accordance with claim 22 or 30,
wherein:

a magnet is disposed in said sliding key, and
said sensors detect the moved direction and the amount of the movement of said sliding
key in said horizontal direction based on the change of the magnetic flux density from said
magnet corresponding to the movement of said sliding key.

41. (previously presented): A mobile terminal in accordance with claim 40, wherein:
said sliding key provides a concave part on a part of the surface where said sliding key is
adhered to said elastic sheet, and
said sliding key is adhered to said elastic sheet by disposing said magnet in said concave
part, and
said magnet is sealed in said sliding key.

42. (previously presented): A mobile terminal in accordance with claim 22 or 30,
wherein:
guides being possible to be recognized optically are disposed on designated positions on
said elastic sheet, and
said sensors detect the moved direction and the amount of the movement of said sliding
key in said horizontal direction by reading the movements of said guides optically corresponding
to the movement of said sliding key.

43. (previously presented): A mobile terminal in accordance with claim 22 or 30,
wherein:

a coil is disposed in said sliding key, and
said sensors detect the moved direction and the amount of the movement of said sliding
key in said horizontal direction based on the electromotive force generated by the
electromagnetic induction by the movement of said sliding key in the magnetic field of
designated power formed at the surrounding part of said coil.

44. (previously presented): A mobile terminal in accordance with claim 22 or 30, further
comprising:

a bellows portion having a ring shape formed in said elastic sheet outside the position
where said sliding key is adhered to said elastic sheet.

45. (previously presented): A mobile terminal in accordance with claim 22 or 30, further
comprising:

at least one of projections supporting said sliding key on the inside surface of said elastic
sheet.

46. (previously presented): A mobile terminal in accordance with claim 22 or 30, further
comprising:

a concave part formed on the outside surface of said sliding key.

47. (previously presented): A mobile terminal in accordance with claim 22 or 30, further comprising:

a nonskid component disposed on the outside surface of said sliding key.

48. (previously presented): A mobile terminal in accordance with claim 22 or 30, further comprising:

one or more projections formed on the outside surface of said sliding key.

49. (previously presented): A mobile terminal in accordance with claim 22 or 30, further comprising:

a plurality of openings in said cabinet surface; and

a group of keys formed on the front surface of said elastic sheet and each disposed in a corresponding opening of said plurality of openings.